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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/657,976

Applicant(s)

PABLA ET AL.

Examiner

HIEU T. HOANG

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/02)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/22/2007 has been entered.
2. Claims 1-35 are pending.

Response to Amendment

3. The 35 U.S.C. 112 rejection has been withdrawn due to the amendment.

Response to Arguments

4. Applicant's arguments have been fully considered but are moot in view of new ground(s) of rejection.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-19 are rejected under 35 U.S.C. 101 the claimed invention is directed to non-statutory subject matter.

7. For claims 1-7, the system claims recites peers, each defined in the specification as a process (page 22 second par.) Therefore, peers can be read as software modules; and the claims are directed to software systems and non-statutory subject matter.
8. Same rationale applies to claims 8-17.
9. Claims 18-19 recite means for implementing some functions. It is believed that these means are software means, since the claimed subject matter is related to peer-to-peer protocols (advertising and discovering). Therefore, the claims are directed to non-statutory subject matter.

Claim Objections

10. Claim 1 is objected to because of the following informalities: the claim recites in the third limitation "the one or more advertisement," which should be "the one or more advertisements". Applicant is requested to check for similar errors. Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the first and second paragraphs of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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12. Claims 1, 3, 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. Claim 1 recites "the peer node" on line 4 (line number not including empty lines). It is unclear whether this peer node corresponds to the publisher peer node or the at least one of the plurality of peer nodes previously recited.

14. Claim 1 recites on line 14 "at least a subset of the plurality of peer nodes each configured to..." It is not clear what "each" refers to (a subset or a peer node).

15. For claim 12, "the cached contents" on line 3 lacks antecedent basis.

16. Claim 12 is rejected under 35 U.S.C. 112, first and second paragraphs, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant is requested to show support in the specification that discloses this limitation. Furthermore, with respect to 35 U.S.C. 112, second paragraph, it is vague why an edge publisher is closer to "other peer nodes" than the primary publisher given that no information is provided for the other peer nodes. As best understood by the examiner, the invention is to locate a closest peer node, regardless for that peer node being a primary or an edge peer, to provide cached content. Therefore, that an edge peer node is closer to other peer nodes than a primary publisher is both vague and unsupported by the specification.

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17. Claim 3 recites "an additional content publisher." There is "an additional content publisher" in claim 1. It is not clear whether these two are the same.

18. Applicant is requested to check for similar errors. Appropriate correction is required.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 1, 6, 7, 20, 25-27, 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burbeck et al. (US 2003/0217139, hereafter Burbeck), in view of Krishnan (The JXTA solution to P2P).

21. For claim 1, Burbeck discloses a system, comprising:

- a plurality of peer nodes coupled to a network (abstract, peers in a peer-to-peer network);
- at least one of the plurality of peer nodes configured as a publisher peer node for a plurality of contents cached on the peer node, wherein each publisher peer node is configured to publish one or more advertisements on the network, wherein each advertisement corresponds to the plurality of contents cached on the

peer node ([0023], lines 1-3, a peer node publishes advertisements what content the node holds), and wherein each advertisement includes information for requesting the specific corresponding content ([0111] lines 18-25, the alive message or advertisement contains includes call back information, [0112], [0113], file sharing); and

- at least a subset of the plurality of peer nodes each configured to discover published advertisements on the network and request one or more specific contents corresponding to the discovered advertisements in accordance with the information included in the advertisements ([0023] lines 3-5, nodes receiving the advertisement can request content according to the advertisement);
- wherein a publisher peer node that caches a content corresponding to a discovered advertisement is configured to provide the content corresponding to the discovered advertisement to another one of the a requesting peer node ([0023] lines 6-8, receiving requested content from the published node) in response to a request for the content from the requesting peer node ([0023], lines 4-5, request for content from requesting node); and
- wherein the requesting peer node is configured to cache the content ([0023] lines 8-10, requesting node caches received content) and become an additional content publisher peer node for the content corresponding to the discovered advertisement ([0118] lines 1-9, receiving peers further forwarding advertisement to other peers).

Burbeck does not explicitly disclose:

- each advertisement corresponds to a specific one of the plurality of contents, and requesting a specific content;
- wherein to publish the one or more advertisements on the network the publisher peer node is configured to send the one or more advertisement to a rendezvous peer node, wherein the rendezvous peer node caches the one or more advertisements;
- discover published advertisements on the network from the rendezvous peer node by accessing the rendezvous peer node;

However, Krishnan discloses and/or suggests:

- each advertisement corresponds to one codat (page 5, Codats and Advertisements, codats are read as contents; each advertisement corresponds to a codat) which is a specific one of the plurality of codats or contents, and therefore enabling requesting a specific content (page 5, Codats and Advertisements, a codat can be published and discovered);
- wherein to publish the one or more advertisements on the network the publisher peer node is configured to send the one or more advertisement to a rendezvous peer node, wherein the rendezvous peer node caches the one or more advertisements (p.5, rendezvous peers, which cache advertisements);
- discover published advertisements on the network from the rendezvous peer node by accessing the rendezvous peer node (p.5, rendezvous peers, which cache advertisements and resolve discovery to other peers);

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck and Krishnan to discover advertisement through rendezvous nodes so that service or content requests can be resolved efficiently.

22. For claim 20, Burbeck discloses a method, comprising:

- a content publisher peer node caching user requestable content and publishing the cached user requestable contents for access by other peer nodes on a network ([0023], lines 1-3, a peer node publishes advertisements what content the node holds to other peers);
- one of the other peer nodes requesting a particular content on the network in response to a user request for the particular content ([0023] lines 3-5, nodes receiving the advertisement can request the content resource according to the advertisement, [0124], user requests); receiving the particular content from the content publisher peer node; caching the received particular content ([0023] lines 8-10, requesting node caches received content); and publishing the received particular content for access by the other peer nodes on the network ([0118] lines 1-9, receiving peers further forwarding advertisement to other peers).

Burbeck does not explicitly disclose: a plurality of separately user-requestable contents;

However, Krishnan discloses the same (page 5, codats, or contents;
advertisements, each advertisement message corresponds to a particular content)

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck and Krishnan to cache content at a node separately

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so that content can be advertised separately and provided more efficiently upon request.

23. For claim 28, the claim is rejected for the same rationale as in claim 20.

24. For claims 6, 7, 26, 27, 34, 35, Burbeck-Krishnan further discloses the at least a subset of the plurality of peer nodes are member peers in a peer group (Krishnan, p. 4 and 5, peer groups), participate in a peer-to-peer networking environment implemented in accordance with one or more peer-to-peer platform protocols for enabling peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share network resources in the peer-to-peer environment (Krishnan, p. 6, peer to peer protocols).

25. For claims 25 and 33, Burbeck-Krishnan further discloses the content publisher peer node is a primary publisher of the particular content, and wherein the one of the other peer nodes is an edge publisher of the particular content (Burbeck, [0023], a primary publisher is a peer that originates the publishing of the instances, an edge publisher is a peer that receives the instances advertised by the primary publisher and itself publishes the instances to other peers).

26. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burbeck in view of Leber et al. (US 2003/0233455, hereafter Leber).

27. For claim 12, Burbeck discloses a system, comprising:

a primary content publisher peer node configured to cache user-requestable contents and publish the cached contents for access by other peer nodes on a network ([0023], lines 1-3, a peer node publishes advertisements what contents the node holds);

an edge content publisher peer node configured to receive a plurality of the user-requestable contents from the primary content publisher peer node; cache the received plurality of contents ([0023] lines 8-10, requesting peer which caches received content is an edge peer node, a plurality of contents can be cached); and publish the received plurality of contents for access by the other peer nodes on the network ([0118] lines 1-9, receiving peers further forwarding advertisement to other peers).

Burbeck does not explicitly disclose:

wherein the edge content publisher peer node is logically closer to the other peer nodes on the network than the primary content publisher.

However, Leber discloses wherein the edge content publisher peer node is logically closer to the other peer nodes on the network than the primary content publisher (abstract, fig. 6 steps 615-640, [0098], a node logically closer to content requesting peers or an edge peer is identified).

It would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck and Leber to cache content at a node closer to the peers so that content can be provided more efficiently upon request.

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28. For claim 13, the claim is rejected for the same rationale as in claim 2.

29. For claim 14, the claim is rejected for the same rationale as in claim 3.

30. Claims 16, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burbeck, Leber, further in view of Krishnan.

31. For claims 16 and 17, Burbeck-Leber does not explicitly disclose the at least a subset of the plurality of peer nodes are member peers in a peer group, participate in a peer-to-peer networking environment implemented in accordance with one or more peer-to-peer platform protocols for enabling peer nodes to discover each other, communicate with each other, and cooperate with each other to form peer groups and share network resources in the peer-to-peer environment.

However, Krishnan discloses the same (p. 4 and 5, peer groups; p. 6, peer to peer protocols)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck, Leber and Krishnan in order to provide various services such as sharing, messaging, and chat and collaboration in a peer group.

32. Claims 2-5, 8-11, 18-19, 21-23, 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burbeck, in view of Krishnan, and Leber.

33. For claim 2, Burbeck-Krishnan further discloses wherein the at least a subset of the plurality of peer nodes are each configured to discover two or more advertisements published by two or more content publisher peer nodes to advertise a particular content cached on each of the two or more content publisher peer nodes (Burbeck, fig. 11, [0131], peer receives responses to content query from other peers that cached the content, [0023], the other peers that cached the content are content publishers publishing advertisements, [0118], propagating or broadcasting the content advertisement)

Burbeck does not disclose:

- determine one of the two or more content publisher peer nodes as logically nearest on the network, wherein a logically nearest peer node is a peer node to which communications over the network take the least time; and
- request the particular content from the logically nearest content publisher peer node in accordance with the advertisement corresponding to the logically nearest content publisher peer node.

However, Leber discloses the same (abstract, fig. 6 steps 615-640, [0098], determine a closest peer that has the content by selecting a subset of peers that has fastest data flow, and request content from the selected subset of peers)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck-Krishnan and Leber in order to provide peer-to-peer file sharing from the closest and fastest peers where the file is available for best quality of service.

34. For claim 3, Burbeck-Krishnan-Leber further discloses the at least a subset of the plurality of peer nodes are each further configured to cache the particular content and become an additional content publisher peer node for the particular network (Burbeck, [0023] lines 8-10, requesting node caches received content; [0118] lines 1-9, receiving peers further forwarding advertisement to other peers).

35. For claim 4, the claim is rejected as in claim 1. Burbeck-Krishnan further discloses wherein the at least a subset of the plurality of peer nodes are each configured to: send a request for the particular content on the network (Burbeck, [0023] lines 4-5, peers requesting for content);

Burbeck does not explicitly disclose receive a portion of the particular content from the first content publisher peer node that caches the particular content in response to the request; and receive another portion of the particular content from a second content publisher peer node that also caches the particular content in response to the request

However, Leber discloses the same (abstract, requesting peers receive data portions back from the peers that have parts of a file, then reassemble the portions)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck, Krishnan and Leber in order to provide peer-to-peer file sharing from the peers where requested files or file parts are available as taught by Leber.

36. For claim 5, the claim is rejected as in claim 1. Burbeck-Krishnan further discloses wherein the at least a subset of the plurality of peer nodes are each configured to:

broadcast a request for a particular content on the network (Burbeck, fig. 11, user query for content resource or request content from its peers, [0127], broadcasting query);

receive a response to the request from each of two or more content publisher peer nodes that cache the particular content (Burbeck, [0125], [0131], identify peers satisfying the request and receive responses from these peers);

Burbeck does not explicitly disclose:

determine a logically nearest one of the two or more content publisher peer nodes on the network wherein a logically nearest peer node is a peer node to which communications over the network take the least time; and get the content from the logically nearest content publisher peer node.

However, Leber discloses the same (abstract, fig. 6 steps 615-640, [0098], determine a closest peer that has the content by selecting peers that has fastest data flow, and request content from the selected closest peers)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck, Krishnan and Leber in order to provide peer-to-peer file sharing from the closest and fastest peers where the file is available for best quality of service.

37. For claims 21, and 29, the claims are rejected for the same rationale as in claim 2.

38. For claims 22, 23, 30 and 31, the claims are rejected for the same rationale as in claim 3.

39. For claim 8, Burbeck discloses a system, comprising:

a plurality of content publisher peer nodes coupled to a network, wherein each of the plurality of content publisher peer nodes is configured to cache user requestable contents and to publish the cached contents on the network ([0023], lines 1-3, a peer node publishes advertisements what content the node holds, content is requestable);

a content consumer peer node coupled to the network and configured to send a request for a particular content on the network in response to a user request for the particular content ([0023] lines 4-8, a peer node requests for content based on received content advertisement, [0007], [0008], users download files); and

Burbeck does not explicitly disclose: a plurality of separately user-requestable contents;

However, Krishnan discloses the same (page 5, codats, or contents; advertisements, each advertisement message corresponds to a particular content)

Burbeck-Krishnan does not disclose: receive the particular content from a logically nearest content publisher peer node of the plurality of content publisher peer

nodes on the network wherein a logically nearest peer node is a peer node to which communications over the network take the least time.

However, Leber discloses the same (abstract, fig. 6 steps 615-640, [0098], determine a closest peer that has the content by selecting peers that has fastest data flow, and request content from the selected closest peers)

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck, Krishnan and Leber in order to provide peer-to-peer services from the peer where the service is available with best QoS in order to save unnecessary long distance communications costs.

40. For claim 18, the claim is rejected for the same rationale as in claim 8.
41. For claim 9, the claim is rejected for the same rationale as in claim 1.
42. For claims 10 and 11, the claims are rejected for the same rationale as in claims 6 and 7.
43. For claim 19, the claim is rejected as in claim 18. Burbeck-Krishnan-Leber further discloses means for the peer node to cache and publish the particular content for access by other peer nodes on the network (Burbeck, [0023], [0118], receiving peer node caches content and publishes to other peers).
44. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burbeck-Leber, and further in view of Saulpaugh et al. (US 2004/0122903, hereafter Saulpaugh).

45. For claim 15, Burbeck further discloses an edge peer node configured to: send a request for particular content on the network in response to a user request for the particular content ([0023], lines 4-5, request for content from requesting node, [0124], user entering request);

Burbeck does not explicitly disclose receive a portion of the particular content from the primary content publisher peer node in response to the request; receive a redirection to the edge content publisher peer node from the primary content publisher peer node; and receive another portion of the particular content from the edge content publisher peer node in response to the redirection.

However, Saulpaugh discloses the same ([0076], a peer that receives a query for instances of a queried object may host one or more instances and know redirecting routes to remaining instances; so it responses to the query by returning the instances that it hosts together with routing information to other edges that host the remaining instances of that role).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck, Leber and Saulpaugh in order to redirect content query to nodes that host portions of a queried object or content.

46. Claims 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burbeck-Krishnan, and further in view of Saulpaugh et al. (US 2004/0122903, hereafter Saulpaugh).

47. For claim 24, Burbeck-Krishnan further discloses an edge peer node configured to: send a request for particular content on the network in response to a user request for the particular content (Burbeck, [0023], lines 4-5, request for content from requesting node, [0124], user entering request);

Burbeck-Krishnan does not explicitly disclose receive a portion of the particular content from the primary content publisher peer node in response to the request; receive a redirection to the edge content publisher peer node from the primary content publisher peer node; and receive another portion of the particular content from the edge content publisher peer node in response to the redirection.

However, Saulpaugh discloses the same ([0076], a peer that receives a query for instances of a queried object may host one or more instances and know redirecting routes to remaining instances; so it responds to the query by returning the instances that it hosts together with routing information to other edges that host the remaining instances of that role).

Therefore, it would have been obvious for one skilled in the art at the time of the invention to combine the teachings of Burbeck, Krishnan and Saulpaugh in order to redirect content query to nodes that host portions of a queried object or content.

48. For claim 32, the claims are rejected for the same rationale as in claim 15.

Conclusion

49. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is included in form PTO 392.

50. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hieu T. Hoang whose telephone number is 571-270-1253. The examiner can normally be reached on Monday-Thursday, 8 a.m.-5 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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HH

/Kenny S Lin/

Primary Examiner, Art Unit 2152